CLAIMS

What is claimed is:

1. A method for organizing and generating report data indicative of a plurality of manageable entities in a managed information network comprising:

determining an output criteria applicable to a set of data to compute an ordered output display set adapted for inclusion in a report;

parsing, in a first pass, a plurality of entries in the set of data;

applying, during the first pass, the determined output criteria to a portion of each parsed entry to compute a subset of candidate entries;

parsing, in a second pass, the computed subset of candidate entries; and

processing, during the second pass, the computed subset of candidate entries according to the determined output criteria to generate the ordered output display set of entries.

2. The method of claim 1 further comprising omitting from a memory, in the second pass, entries in the parsed plurality of entries outside the candidate set.

3. The method of claim 1 wherein the determined output criteria includes:
a selection criteria indicative of output records for inclusion in the candidate entries; and
an arrangement criteria indicative of display formatting applicable to the candidate entries.

4. The method of claim 3 further comprising retaining in a memory, in the first pass, only the selection and arrangement criteria fields.

5. The method of claim 3 wherein the selection criteria corresponds to displayable entries operable for simultaneous display on an output device.

6. The method of claim 3 wherein the arrangement criteria is indicative of ordering logic applicable to a subset of fields each of the entries based on a comparison of the fields in the entries.

7. The method of claim 6 wherein the ordering logic processes at least one of the fields according to ascending or descending values.

8. The method of claim 1 wherein the determined output criteria is operable on key fields of the entries, the key fields having scalar values operable for comparison.

9. The method of claim 1 wherein the set of data is arranged in a predetermined data set format, the data set format operable to designate entries corresponding to rows and fields corresponding to columns.

10. The method of claim 9 wherein the predetermined data set format defines a syntax having a nested structure conversant with a parser operable to perform the first parse and the second parse, the parser further operable to extract entries and fields in each of the entries according to rows and columns.

11. The method of claim 1 further comprising filtering according to a filtering criteria, the filtering operable to designate a subset of entries for inclusion in the first pass and the filtering criteria operable on at least one of the fields for comparison and selective inclusion in the designated subset.

12. The method of claim 1 wherein parsing further comprises generating parsing events for initiating callback operations, the callback operations operable on the data set according to predetermined logic.

13. The method of claim 12 wherein the parsing events correspond to predetermined syntactical structures, and the callback operations are operable for applying the determined output criteria on the entries in the data set.

14. The method of claim 13 wherein the callback operations further include building the candidate set, filtering the entries in the data set, matching entries in the candidate set, sorting entries in the candidate set, and formatting entries in the candidate set.

15. The method of claim 1 wherein the first pass further comprises filtering entries for omission from the candidate set and comparing key fields in entries for inclusion in the candidate set.

16. The method of claim 1 wherein the second pass further comprises matching entries for inclusion in the candidate set, sorting entries in the candidate set, and formatting entries in the candidate set for display on the output device.

17. A data management device for organizing and generating report data indicative of a plurality of manageable entities in a storage area network (SAN) comprising:

an infrastructure monitor operable for receiving an output criteria applicable to a set of data to compute an ordered output display set adapted for inclusion in a report;

a parser in the infrastructure monitor for parsing, in a first pass, a plurality of entries in the set of data;

a first handler in the parser for applying, during the first pass, the determined output criteria to a portion of each parsed entry to compute a subset of candidate entries;

a second handler in the parser for parsing, in a second pass, the computed subset of candidate entries, the parser operable to process, during the second pass, the computed subset of candidate entries according to the determined output criteria to generate the ordered output display set of entries.

18. The data management device of claim 17 wherein the parser is operable to omit from a memory, in the second pass, entries in the parsed plurality of entries outside the candidate set.

19. The data management device of claim 17 wherein the determined output criteria includes:

a selection criteria indicative of output records for inclusion in the candidate entries; and

an arrangement criteria indicative of display formatting applicable to the candidate entries.

20. The data management device of claim 19 wherein the parser is operable to retain, in a memory, in the first pass, only the selection and arrangement criteria fields.

21. The data management device of claim 19 wherein the selection criteria corresponds to displayable entries operable for simultaneous display on an output device.

22. The data management device of claim 19 wherein the arrangement criteria is indicative of ordering logic applicable to a subset of fields each of the entries based on a comparison of the fields in the entries.

23. The data management device of claim 22 wherein the ordering logic is operable to process at least one of the fields according to ascending or descending values.

24. The data management device of claim 17 wherein the determined output criteria is operable on key fields of the entries, the key fields having scalar values operable for comparison.

25. The data management device of claim 17 wherein the set of data is arranged in a predetermined data set format, the data set format operable to designate entries corresponding to rows and fields corresponding to columns.

26. The data management device of claim 25 wherein the predetermined data set format defines a syntax having a nested structure conversant with a parser operable to perform the first parse and the second parse, the parser further operable to extract entries and fields in each of the entries according to rows and columns.

27. The data management device of claim 17 further comprising a filter handler operable according to a filtering criteria, the filtering operable to designate a subset of entries for inclusion in the first pass and the filtering criteria operable on at least one of the fields for comparison and selective inclusion in the designated subset.

28. The data management device of claim 17 wherein parsing is operable to generate parsing events for initiating callback operations, the callback operations operable to invoke handlers for performing operations on the data set according to predetermined logic.

29. The data management device of claim 28 wherein the parsing events correspond to predetermined syntactical structures, and the callback operations are operable for applying the determined output criteria on the entries in the data set.

30. The data management device of claim 29 wherein the handlers are further operable to perform callback operations including building the candidate set, filtering the entries in the data set, matching entries in the candidate set, sorting entries in the candidate set, and formatting entries in the candidate set.

31. A method for efficient memory usage for organizing and generating report data indicative of a plurality of manageable entities in a storage area network (SAN) comprising:

determining, via a user input request, an output criteria applicable to a set of data to compute an ordered output display set adapted for inclusion in a report;

parsing, by a build set handler, in a first pass, a plurality of entries in the set of data;

retrieving, during the parsing, a portion of each of the plurality of entries;

applying, during the first pass, the determined output criteria to the retrieved portion of each parsed entry to compute a subset of candidate entries, the candidate entries computed by determination of a range of entries from the set of data, the range operable for inclusion in a common display screen area;

parsing, by a match set handler, in a second pass, the computed subset of candidate entries to identify entries in the data set corresponding to the portions of entries in the candidate entries;

retrieving, by the match set handler, the entire entry corresponding to each of the portion of the entry in the candidate entries;

processing, by a sort handler, during the second pass, the computed subset of candidate entries according to the determined output criteria to generate complete entries of the entries in the candidate set;

formatting, by a format handler, the processed complete entries to generate the output display set of entries, the output display set of entries corresponding to the determined range and ordered according to the ordering logic; and

omitting from the memory, during the second pass, entries in the data set outside the output display set of entries.

32. A computer program product having a computer readable medium operable to store computer program logic embodied in computer program code encoded thereon for organizing and generating report data indicative of a plurality of manageable entities in a managed information network comprising:

computer program code for determining an output criteria applicable to a set of data to compute an ordered output display set adapted for inclusion in a report;

computer program code for parsing, in a first pass, a plurality of entries in the set of data;

computer program code for applying, during the first pass, the determined output criteria to a portion of each parsed entry to compute a subset of candidate entries;

computer program code for parsing, in a second pass, the computed subset of candidate entries; and

computer program code for processing, during the second pass, the computed subset of candidate entries according to the determined output criteria to generate the ordered output display set of entries.

33. A computer data signal having program code for organizing and generating report data indicative of a plurality of manageable entities in a managed information network comprising:

program code for determining an output criteria applicable to a set of data to compute an ordered output display set adapted for inclusion in a report;

program code for parsing, in a first pass, a plurality of entries in the set of data;

program code for applying, during the first pass, the determined output criteria to a portion of each parsed entry to compute a subset of candidate entries;

program code for parsing, in a second pass, the computed subset of candidate entries; and

program code for processing, during the second pass, the computed subset of candidate entries according to the determined output criteria to generate the ordered output display set of entries.

34. A data management device for organizing and generating report data indicative of a plurality of manageable entities in a storage area network (SAN) comprising:

means for determining an output criteria applicable to a set of data to compute an ordered output display set adapted for inclusion in a report;

means for parsing, in a first pass, a plurality of entries in the set of data;

means for applying, during the first pass, the determined output criteria to a portion of each parsed entry to compute a subset of candidate entries;

means for parsing, in a second pass, the computed subset of candidate entries; and

means for processing, during the second pass, the computed subset of candidate entries according to the determined output criteria to generate the ordered output display set of entries.